

**401 KAR 59:174. Stage II controls at gasoline dispensing facilities.**

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET  
Department for Environmental Protection  
Division for Air Quality

RELATES TO: KRS 224.01-010, 224.10-100, 224.20-100, 224.20-110, 224.20-120, 42 USC 7511a(b) (1) (A)

STATUTORY AUTHORITY: KRS 224.10-100, 42 USC 7511a(b) (3), 7521(a) (5), 7624, and 7625

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100 requires the Natural Resources and Environmental Protection Cabinet to prescribe administrative regulations for the prevention, abatement, and control of air pollution. This administrative regulation provides for the control of emissions from gasoline dispensing facilities.

**Section 1. Definitions.** Terms not defined in this section shall have the meaning given them in 401 KAR 59:001.

- (1) "Average monthly throughput" means:
  - (a) For an existing facility, the total gallons of gasoline dispensed during the months of operation in the previous twelve (12) months, divided by the number of months of operation during those twelve (12) months; or
  - (b) For a facility which commenced construction on or after the effective date of this administrative regulation, an estimate provided by the owner or operator and approved by the cabinet, of the total gallons of gasoline that will be dispensed during the first twelve (12) months of operation divided by twelve (12).
- (2) "Balance system" means a Stage II vapor recovery system which uses direct displacement to force vapor out of the receiving container and back into the space of the container from where the liquid product was withdrawn.
- (3) "Boot" means an accordion-like tubular cover used over the spout of a gasoline nozzle to provide a return-path for gasoline vapors displaced during refueling.
- (4) "CARB" means the California Air Resources Board.
- (5) "CARB certification" means a document such as an executive order or approval letter provided by CARB or by an equivalent authority which certifies that a vapor recovery system or system components achieve at least a ninety-five percent (95%) reduction in the VOC emissions during refueling, and which identifies the performance standards required for the system or system components. An executive order may also identify the range of permissible components, permissible construction configurations, and the required tests for compliance.
- (6) "Classification date" means the date on which this administrative regulation becomes applicable in a county or portion of a county.
- (7) "Coaxial hose" means a hose-within-a-hose which provides separate passages for the flow of gasoline and vapor return.
- (8) "Dry break" means a spring-loaded valve that prevents vapor from escaping through the vapor recovery riser pipe opening of a storage tank.
- (9) "Equivalent authority" means an authority recognized by the cabinet and by the U.S. EPA as having a program for certification of vapor recovery systems equivalent to that of CARB.
- (10) "Faceplate" means a soft, donut-shaped device attached to the boot of a balance nozzle which forms a tight seal with the vehicle fill pipe during refueling.
- (11) "Facility" or "gasoline dispensing facility" means a site, except a farm not engaged in the sale of gasoline, where gasoline is transferred from a stationary storage tank to a motor vehicle fuel tank.
- (12) "Facility representative" means a facility employee who has been trained to serve at that facility as prescribed in Section 5 of this administrative regulation.
- (13) "Flexible cone" means a cone-shaped device attached to the boot of a vacuum-assist nozzle that prevents too low a vacuum from forming in the vehicle fuel tank.
- (14) "Leak" means liquid or vapor loss from the gasoline dispensing system or vapor recovery system as determined by visual inspection or operation of the equipment.
- (15) "Modification" or "modify" means:

(a) The repair, replacement, or upgrade of a facility's Stage II equipment at a cost equal to seventy-five (75) percent or more of the cost of a total system replacement at the time of modification; or

(b) A change, such as the removal of a CARB certified component and the addition or removal of piping or fittings, which may cause the vapor recovery system to be incapable of maintaining an overall control efficiency of at least a ninety-five (95) percent reduction in the VOC emissions.

(16) "Month" means calendar month.

(17) "Month of operation" means a month during which a facility is not closed for the purpose of dispensing gasoline for more than four (4) consecutive days.

(18) "Motor vehicle" means a vehicle, machine, or mechanical contrivance propelled by an internal combustion engine and licensed for operation and operated upon the public highways.

(19) "Stage I vapor recovery system" means a vapor recovery system certified by CARB or by an equivalent authority to reduce the emissions of VOCs by ninety-five (95) percent or more during the transfer of gasoline to a stationary storage tank at a facility.

(20) "Stage II vapor recovery system" means a vapor recovery system certified by CARB or by an equivalent authority to reduce the emissions of VOCs during the refueling of a motor vehicle at a facility by ninety-five (95) percent or more.

(21) "Storage tank" means a tank at a gasoline dispensing facility which is used for the storage of gasoline.

(22) "Vacuum assist system" means a Stage II vapor recovery system which uses a vacuum inducing device to collect vapor from the receiving container and direct it back into the space of the container from where the liquid product was withdrawn.

**Section 2. Applicability.** (1) This administrative regulation shall apply to the owner or operator of a gasoline dispensing facility located in a county in which the entire county, as of the effective date of this administrative regulation, is designated severe, serious, or moderate nonattainment for ozone pursuant to 401 KAR 51:010, Attainment status designations, except as exempted in Section 9 of this administrative regulation.

(2) After the date specified in Section 8 of this administrative regulation, an owner or operator of a facility shall not transfer or allow the transfer of gasoline from a storage tank at that facility into a motor vehicle fuel tank unless the displaced vapors are collected by a Stage II vapor recovery system and the requirements of this administrative regulation are met.

**Section 3. Registration and Notification Requirements.** The owner or operator shall submit registration and notification forms to the Division for Air Quality as specified in this section. These forms are incorporated by reference in Section 10 of this administrative regulation.

(1) Registration of Facilities. DEP 7105, Gasoline Dispensing Facility Registration Form, shall be submitted at least thirty (30) days prior to installing or modifying a Stage II vapor recovery system.

(2) Compliance Test Notification. DEP 7105A, Compliance Test Notification Form, shall be submitted at least thirty (30) days prior to the performance of the compliance tests required in Section 6 of this administrative regulation.

(3) Stage II Post Inspection Report. DEP 7105B, Stage II Post Inspection Form, shall be submitted within ten (10) work days after the applicable compliance tests have been performed.

#### **Section 4. Control Measures and Operating Requirements.**

(1) The Stage II vapor recovery system shall:

(a) Be designed and operated to be at least ninety-five (95) percent effective in recovering displaced vapors;

(b) Be certified by CARB or an equivalent authority;

(c) Employ only coaxial hoses at the dispensers;

(d) Contain no components that would impede the performance of the functional or compliance tests of the system;

- (e) Be integrated with a Stage I vapor recovery system; and
  - (f) Meet the testing requirements contained in Section 6 of this administrative regulation.
- (2) The owner or operator shall comply with the following operational restrictions for the Stage II vapor recovery system:
- (a) The system shall be installed, operated, and maintained in accordance with the manufacturer's specifications and the applicable certification granted by CARB.
  - (b) The system shall be free of defects listed in this subsection. The facility representative shall inspect the equipment daily for these defects. If a defect is discovered, through this inspection or otherwise, an "Out of Order" sign shall be posted and the defective equipment shall be rendered inoperable. Defects include:
    - 1. The absence or disconnection of any component that is part of the Stage II vapor recovery system;
    - 2. The use of equipment not in accord with the system certification;
    - 3. A vapor hose that is crimped or flattened so that:
      - a. The vapor passage is completely blocked, or
      - b. The pressure drop through the vapor hose is greater than two (2) times the certification requirements;
    - 4. A boot that is torn in one (1) or more of the following ways:
      - a. A triangular shaped or similar tear more than one-half (1/2) inch on a side, or
      - b. A hole more than one-half (1/2) inch in diameter, or
      - c. A slit more than one (1) inch in length;
    - 5. A faceplate or flexible cone on a boot that is damaged so that the ability to achieve a seal with a fill pipe interface is impaired for at least one quarter (1/4) of the total circumference of the faceplate or flexible cone;
    - 6. A malfunctioning nozzle shutoff mechanism;
    - 7. Vapor return lines, including components such as swivels, anti-recirculation valves, and underground piping, that malfunction or are blocked, or are restricted so that the pressure drop through the line is greater than two (2) times the certification requirement;
    - 8. An inoperative vapor processing unit;
    - 9. An inoperative vacuum producing device;
    - 10. An inoperative pressure/vacuum relief valve, vapor check valve, or dry break;
    - 11. Leaks; and
    - 12. An equipment defect which substantially impairs the control efficiency of the system.
  - (c) A defect in a component of the Stage II vapor recovery system which is not listed in paragraph (b) of this section shall not prevent operation but shall be repaired or replaced within fifteen (15) days after being identified as defective.
  - (d) If the cabinet identifies a defect specified in paragraph (b) of this subsection, the cabinet shall affix a tag to the defective equipment stating that the equipment is out of order. The tag shall not be removed until the cabinet has been notified that the defect has been corrected, and the tagged equipment has been approved for use by the cabinet.
  - (3) The owner or operator shall ensure that safe access to the system components and monitoring equipment is maintained for inspection and compliance determination by the cabinet.
  - (4) The owner or operator shall display instructions for dispensing gasoline on or near each dispenser, in a print type and size that is easily readable, which include at a minimum:
    - (a) A description of how to use the equipment;
    - (b) A warning not to dispense fuel after automatic shutoff; and
    - (c) A telephone number established by the cabinet to report problems with equipment.
  - (5) At least one (1) person at the facility shall be trained pursuant to Section 5 of this administrative regulation.

**Section 5. Training of Facility Representative.** (1) The owner or operator shall ensure that at least one (1) person at the facility is trained to operate the vapor recovery system. The facility representative shall not be required to be present at the facility at all times, but shall perform or oversee the daily inspection of vapor recovery equipment for the defects listed in

Section 4(1)(b) of this administrative regulation.

(2) Training may be provided by the vapor recovery equipment manufacturer or distributor, by the person constructing or modifying the Stage II vapor recovery system, by a trained facility representative, or by training manuals provided by the manufacturer, distributor, or the person constructing or modifying the Stage II vapor recovery system. If training manuals are used, they shall be kept at the facility and made available to the cabinet upon request.

(3) Training shall include the following topics:

- (a) Purposes of the Stage II vapor recovery program;
- (b) Operation of the vapor recovery system at that facility;
- (c) Daily equipment inspections;
- (d) How to repair or replace faulty equipment without voiding the equipment warranties;
- (e) Procedures for posting and removing "Out of Service" signs;
- (f) The executive orders of CARB (or the equivalent authority certifying the system), the range of components certified for use in the system, and the requirements placed on the owner or operator;
- (g) Maintenance schedules and requirements for the system and its components; and
- (h) Equipment warranties.

(4) The training shall include a practical demonstration on how to operate and inspect the equipment and how to perform a start-up and shut-down of the facility. This demonstration may be performed at another facility with a similar vapor recovery system. The cabinet may require that this demonstration be witnessed by the cabinet as a condition for compliance.

(5) The owner or operator shall maintain a record for each facility representative which includes the following:

- (a) The name of the facility representative and the date training was received;
  - (b) Proof of attendance and successful completion of training;
  - (c) If applicable, the date the facility representative left the employ of the owner or operator.
- (6) The owner or operator shall not operate the facility for more than thirty (30) consecutive days without a facility representative.

**Section 6. Compliance Demonstration Test.** (1) Within sixty (60) days after the installation or modification of a Stage II vapor recovery system, the owner or operator shall comply with the applicable test procedures specified in this subsection. These tests are incorporated by reference in Section 10 of this administrative regulation.

(a) A leak test shall be performed in accordance with the applicable procedure specified in this paragraph. The vapor recovery system shall comply with the leak rate criteria specified in the applicable test procedure.

1. Vapor Recovery Test Procedure TP-201.3, Determination of two (2) Inch (WC) Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities;

2. Vapor Recovery Test Procedure TP-201.3A, Determination of five (5) Inch (WC) Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities; or

3. Vapor Recovery Test Procedure TP-201.3B, Determination of Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities with Above-Ground Storage Tanks.

(b) A dynamic back pressure test shall be performed in accordance with Vapor Recovery Test Procedure TP-201.4, Determination of Dynamic Pressure Performance of Vapor Recovery Systems of Dispensing Facilities.

1. The cabinet may require that this test be conducted simultaneously on all the nozzles of a dispenser for which gasoline can be dispensed simultaneously.

2. The vapor recovery system shall comply with the maximum allowable average dynamic pressures given in the test procedure.

(c) Vapor Recovery Test procedure TP-201.5, Determination (by Volume Meter) of Air to Liquid Volume Ratio of Vapor Recovery Systems of Dispensing Facilities, shall be performed for a system if required by the applicable CARB certification. The vapor recovery system shall comply with the criteria

specified in the test procedure.

(d) Vapor Recovery Test Procedure TP-201.6, Determination of Liquid Removal of Phase II Vapor Recovery Systems of Dispensing Facilities, shall be performed for a system if required by the applicable CARB certification. The vapor recovery system shall comply with the criteria specified in the test procedure.

(2) At intervals not to exceed five (5) years, the owner or operator shall demonstrate compliance with the requirements of the applicable test procedure specified in subsection (1)(a) of this section. The notification requirements of Section 3(2) of this administrative regulation shall apply for these tests.

(3) The cabinet may require the owner or operator to perform other tests if necessary to demonstrate the adequacy of a vapor recovery system.

**Section 7. Recordkeeping Requirements.** (1) The owner or operator shall maintain the following documents:

(a) Current CARB certification for the Stage II vapor recovery system installed at the facility;

(b) Proof of training for the current facility representative; and

(c) Test results which verify that the vapor recovery system meets or exceeds the requirements of the compliance tests required in Section 6 of this administrative regulation.

(2) The following records shall be maintained for a period not less than three (3) years:

(a) A log of the quantity of gasoline delivered to the facility during each month;

(b) A log of maintenance records including any repaired or replacement parts and description of the problem;

(c) Inspection reports issued by the cabinet, kept in chronological order;

(d) Compliance records including warnings or notices of violation issued by the cabinet, kept in chronological order; and

(e) The facility representative record specified in Section 5(3) of this administrative regulation.

(3) Records shall be kept current and made available to the cabinet upon request.

**Section 8. Compliance Timetable.** The owner or operator shall comply with this administrative regulation in the following manner:

(1) Facilities with an average monthly throughput of 100,000 gallons or more, which commenced construction on or before the classification date, shall comply within one (1) year of the classification date.

(2) Facilities with an average monthly throughput between 25,000 and 100,000 gallons, which commenced construction on or before the classification date, shall comply within two (2) years of the classification date.

(3) Facilities commencing construction after the effective date shall comply before beginning to dispense gasoline.

**Section 9. Exemptions.** (1) The fuels and facilities specified in this subsection shall be exempt from this administrative regulation

(a) Diesel fuel and kerosene. These fuels shall not be used in calculating the average monthly throughput to determine the applicability of this administrative regulation.

(b) A facility with an average monthly throughput of 25,000 gallons or less. This exemption shall cease to apply if the average monthly throughput exceeds 25,000 gallons.

(c) A facility located in an air quality control region which has implemented a Stage II program that has been approved by the U.S. EPA.

(2) Recordkeeping for exempted facilities. An exempted facility shall maintain records for a period not less than two (2) years which demonstrate that the facility's average monthly throughput has not exceeded the applicable throughput limit.

(3) Loss of exemption status. If a monthly record documents an average monthly throughput equal to or greater than the applicable throughput limit, the owner or operator shall notify the division by phone or fax within thirty (30) days. If the exemption ceases to apply, the owner or operator shall comply with this administrative regulation within one (1) year of notification by the

cabinet.

**Section 10. Material Incorporated by Reference** (1) The following forms are incorporated by reference:

- (a) "DEP 7105, Gasoline Dispensing Facility Registration, August 1997;"
- (b) "DEP 7105A, Compliance Demonstration Notification, August 1997;" and
- (c) "DEP 7105B, Stage II Post Inspection Form, August 1997."

(2) The test methods specified in this subsection, as published by California Environmental Protection Agency, Air Resources Board, in the "Stationary Source Test Methods, Volume 2, Certification and Test Procedures for Vapor Recovery Systems, April 12, 1996," is incorporated by reference. This document is available from the California Air Resources Board, P.O. Box 2815, 2020 L St., Sacramento, CA 95812, Phone (916) 322-2990.

(a) Vapor Recovery Test Procedure TP-201.3, Determination of 2 Inch (WC) Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities;

(b) Vapor Recovery Test Procedure TP-201.3A, Determination of 5 Inch (WC) Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities;

(c) Vapor Recovery Test Procedure TP-201.3B, Determination of Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities with Above-Ground Storage Tanks.

(d) Vapor Recovery Test Procedure TP-201.4, Determination of Dynamic Pressure Performance of Vapor Recovery Systems of Dispensing Facilities.

(e) Vapor Recovery Test Procedure TP-201.5, Determination (by Volume Meter) of Air to Liquid Volume Ratio of Vapor Recovery Systems of Dispensing Facilities.

(f) Vapor Recovery Test Procedure TP-201.6, Determination of Liquid Removal of Phase II Vapor Recovery Systems of Dispensing Facilities.

(3) The material incorporated by reference may be obtained, inspected, or copied at the following offices of the Division for Air Quality, Monday through Friday, 8:00 a.m. to 4:30 p.m.:

(a) Division for Air Quality, 803 Schenkel Lane, Frankfort, Kentucky 40601-1403, (502) 573-3382;

(b) Ashland Regional Office, 3700 Thirteenth Street, Ashland, Kentucky 41105-1507, (606) 920-2067;

(c) Bowling Green Regional Office, 1508 Westen Avenue, Bowling Green, Kentucky 42104, (502) 746-7475;

(d) Florence Regional Office, 7964 Kentucky Drive, Suite 8, Florence, Kentucky 41042, (606) 292-6411;

(e) Hazard Regional Office, 233 Birch Street, Suite 2, Hazard, Kentucky 41701, (606) 435-6022;

(f) London Regional Office, 85 State Police Road, London, Kentucky, 40741, (606) 878-0157;

(g) Owensboro Regional Office, 3032 Alvey Park Drive W., Suite 700, Owensboro, Kentucky 42303, (502) 687-7304; and

(h) Paducah Regional Office, 4500 Clarks River Road, Paducah, Kentucky 42003, (502) 898-8468.

Effective Date: January 12, 1998

	Date Submitted to EPA	Date Approved by EPA	Federal Register
Original Reg	OCT 11, 1998	DEC, 8 1998	63 FR 67586